

### AMENDMENTS TO THE CLAIMS

Applicant submits below a complete listing of the current claims, including marked-up claims with insertions indicated by underlining and deletions indicated by strikeouts and/or double bracketing. This listing of claims replaces all prior versions, and listings, of claims in the application:

#### Listing of the Claims

1. (Currently amended) A method for transmitting digital messages through output terminals of a monitoring circuit integrated to a microprocessor on execution of an instruction sequence by the microprocessor, each digital message being representative of characteristic data stored by the monitoring circuit on detection of a specific event from among several specific events in the execution of the instruction sequence, one of said characteristic data corresponding to an identifier of said specific event, comprising:

comparing [[the]] characteristic stored data of a specific event with characteristic stored data of a last previously ~~the last two~~ detected specific event ~~events~~ corresponding to a same identifier;

if the compared characteristic data are identical, incrementing a repetition counter associated with said specific event; and

if the compared data are different, transmitting a digital message representative of the data characteristic of the ~~last detected~~ specific event and, further, if [[the]] content of the repetition counter associated with said specific event is different from zero, transmitting a digital message indicating a number of repetitions ~~repetition~~ of the specific event determined by a value of the repetition counter.

2. (Original) The method of claim 1, in which the digital message indicating a repetition of the specific event comprises the content of the repetition counter associated with said specific event.

3. (Previously presented) The method of claim 1, further comprising resetting the repetition counter associated with said specific event after transmission of a digital message indicating a repetition of the specific event.

4. (Previously presented) The method of claim 1, in which the characteristic data comprise the number of instructions executed by the microprocessor between the last two detected specific events.

5. (Currently amended) The method of claim 1, in which the specific event is a jump in the instruction sequence executed by the microprocessor and the last previously detected specific event corresponding to the same identifier in a last detected jump.

6. (Currently amended) The method of claim 5, in which the characteristic stored data of the specific event comprise data representative of [[the]] an address of [[the]] a destination instruction of the jump and the characteristic stored data of the last previously detected specific event comprise data representative of an address of a destination instruction of the last detected jump.

7. (Previously presented) The method of claim 1, in which the specific event is a read or write instruction in the instruction sequence executed by the microprocessor.

8. (Previously presented) The method of claim 1, further comprising:  
transmitting a digital message indicating a repetition of the specific event if the content of the repetition counter associated with said specific event is greater than a determined threshold;  
and  
setting the repetition counter associated with said specific event to zero.

9. (Currently amended) A device for transmitting digital messages between a monitoring circuit integrated with a microprocessor and an analysis tool, on execution of an instruction sequence by the microprocessor, comprising:

means for detecting a specific event from among several specific events in the execution of the instruction sequence;

means for storing data characteristic of the detected specific event, one of said characteristic data corresponding to an identifier of the specific event;~~and~~

means for transmitting a digital message representative of the stored characteristic data[[,]];

means for comparing the characteristic data of the detected specific event with characteristic data of a last two previously detected specific event events corresponding to [[a]] the same identifier; and

means for incrementing a repetition counter associated with said detected specific event and indicating a number of repetitions of the detected specific event when the comparison means provides a signal indicating that the compared characteristic data are identical[[,]];

wherein and in that the transmission means is capable of:

transmitting a message representative of the data characteristic of the ~~last~~ detected specific event when the comparison means provides a signal indicating that the compared characteristic data are different, ~~and, further, of~~

transmitting a digital message indicating a repetition of the detected specific event when the incrementation means provides a signal indicating that [[the]] content of the repetition counter associated with said detected specific event is different from zero.

10. (Original) The device of claim 9, in which the incrementation means is further capable of setting the repetition counter associated with said specific event to zero when the transmission means transmits a digital message indicating a repetition of the specific event.

11. (New) The device of claim 9, wherein the digital message indicating the repetition of the detected specific event comprises the content of the repetition counter associated with said specific event.

12. (New) The device of claim 9, further comprising means for resetting the repetition counter associated with the detected specific event after transmission of the digital message indicating the repetition of the specific event.

13. (New) The device of claim 9, wherein the characteristic data comprise the number of instructions executed by the microprocessor between the last two detected specific events.

14. (New) The device of claim 9, wherein the detected specific event is a jump in the instruction sequence executed by the microprocessor and the last previously detected specific event corresponding to the same identifier in a last detected jump.

15. (New) The device of claim 14, wherein the characteristic stored data of detected the specific event comprise data representative of an address of a destination instruction of the jump and the characteristic stored data of the last previously detected specific event comprise data representative of an address of a destination instruction of the last detected jump.

16. (New) The device of claim 9, wherein the specific event is a read or write instruction in the instruction sequence executed by the microprocessor.